

18327 US Sequence Listing as filed  
SEQUENCE LISTING

<110> Warner-Lambert Co. LLC  
 Baron, Scott  
 Hidayetoglu, Debra  
 Offord, James  
 Su, Ti-Zhi

<120> ANIMALS AND CELLS CONTAINING A MUTATED alpha2/delta GENE

<130> PC18327A

<150> 60/462,634

<151> 2003-04-14

<150> 60/518,110

<151> 2003-11-07

<160> 42

<170> PatentIn version 3.1

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18327 US Sequence Listing as filed

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18327 US Sequence Listing as filed

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<220>  
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 <213> Artificial

<220>  
 <223> Synthetic oligonucleotide

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18327 US Sequence Listing as filed

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 <223> Synthetic oligonucleotide

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18327 US Sequence Listing as filed

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<400> 12  
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<210> 13  
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<400> 13  
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<210> 14  
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<210> 17  
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18327 US Sequence Listing as filed

<212> PRT

<213> Mus musculus

<400> 17

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<212> PRT

<213> Mus musculus

<400> 18

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<210> 19

<211> 74

<212> PRT

<213> Mus musculus

<400> 19

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Lys Asp Met Leu Ile Leu Val Asn Val Ser Gly Ser Val Ser Gly Leu  
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Thr Leu Lys Leu Ile Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu  
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<210> 20

<211> 72

<212> DNA

<213> Mus musculus

18327 US Sequence Listing as filed

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18327 US Sequence Listing as filed

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 <211> 123  
 <212> DNA  
 <213> Mus musculus

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<210> 23  
 <211> 3529  
 <212> DNA  
 <213> Mus musculus

<400> 23	
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## 18327 US Sequence Listing as filed

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## 18327 US Sequence Listing as filed

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 <213> Mus musculus

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<210> 25

18327 US Sequence Listing as filed

<211> 1103  
<212> PRT  
<213> Mus musculus

<400> 25

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35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
85 90 95

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
115 120 125

Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Pro Gly Ser Gln Arg  
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
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Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val  
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg  
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18327 US Sequence Listing as filed

Gln 225	Pro	Trp	Tyr	Ile 245	Gln	Gly	Ala	Ala	Ser 250	Pro	Lys	Asp	Met	Leu 255	Ile
Leu	Val	Asp	Val 260	Ser	Gly	Ser	Val	Ser 265	Gly	Leu	Thr	Leu	Lys 270	Leu	Ile
Arg	Thr	Ser 275	Val	Ser	Glu	Met	Leu 280	Glu	Thr	Leu	Ser	Asp 285	Asp	Asp	Phe
Val	Asn 290	Val	Ala	Ser	Phe	Asn 295	Ser	Asn	Ala	Gln	Asp 300	Val	Ser	Cys	Phe
Gln 305	His	Leu	Val	Gln	Ala 310	Asn	Val	Arg	Asn	Lys 315	Lys	Val	Leu	Lys	Asp 320
Ala	Val	Asn	Asn	Ile 325	Thr	Ala	Lys	Gly	Ile 330	Thr	Asp	Tyr	Lys	Lys 335	Gly
Phe	Ser	Phe	Ala 340	Phe	Glu	Gln	Leu	Leu 345	Asn	Tyr	Asn	Val	Ser 350	Arg	Ala
Asn	Cys	Asn 355	Lys	Ile	Ile	Met	Leu 360	Phe	Thr	Asp	Gly	Gly 365	Glu	Glu	Arg
Ala	Gln 370	Glu	Ile	Phe	Ala	Lys 375	Tyr	Asn	Lys	Asp	Lys 380	Lys	Val	Arg	Val
Phe 385	Thr	Phe	Ser	Val	Gly 390	Gln	His	Asn	Tyr	Asp 395	Arg	Gly	Pro	Ile	Gln 400
Trp	Met	Ala	Cys	Glu 405	Asn	Lys	Gly	Tyr	Tyr 410	Tyr	Glu	Ile	Pro	Ser 415	Ile
Gly	Ala	Ile	Arg 420	Ile	Asn	Thr	Gln	Glu 425	Tyr	Leu	Asp	Val	Leu 430	Gly	Arg
Pro	Met	Val 435	Leu	Ala	Gly	Asp	Lys 440	Ala	Lys	Gln	Val	Gln 445	Trp	Thr	Asn
Val	Tyr 450	Leu	Asp	Ala	Leu	Glu 455	Leu	Gly	Leu	Val	Ile 460	Thr	Gly	Thr	Leu
Pro 465	Val	Phe	Asn	Val	Thr 470	Gly	Gln	Ser	Glu	Asn 475	Lys	Thr	Asn	Leu	Lys 480

18327 US Sequence Listing as filed

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp  
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr  
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln  
515 520 525

Pro Lys Pro Ile Gly Val Gly Ile Pro Thr Ile Asn Leu Arg Lys Arg  
530 535 540

Arg Pro Asn Val Gln Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp  
545 550 555 560

Phe Leu Asp Ala Glu Leu Glu Asn Glu Ile Lys Val Glu Ile Arg Asn  
565 570 575

Lys Met Ile Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val  
580 585 590

Lys Ser Gln Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr  
595 600 605

Trp Thr Pro Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro  
610 615 620

Thr Tyr Ser Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr  
625 630 635 640

Gln Ala Arg Tyr Ser Glu Thr Leu Lys Pro Asp Asn Phe Glu Glu Ser  
645 650 655

Gly Tyr Thr Phe Ile Ala Pro Arg Glu Tyr Cys Asn Asp Leu Lys Pro  
660 665 670

Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn Glu Phe Ile Asp  
675 680 685

Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp Leu Ile Asn Arg  
690 695 700

Ile Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val Gln Asn Tyr Trp  
705 710 715 720

Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg Phe Val Val Thr  
725 730 735

18327 US Sequence Listing as filed

Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala Gly Glu Asn Trp  
740 745 750

Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr Lys Arg Ser Leu  
755 760 765

Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe Asn Lys Ser Gly  
770 775 780

Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys Ala Val Glu Leu  
785 790 795 800

Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val Gly Ile Lys Ile  
805 810 815

Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr Ser Ile Arg Asp  
820 825 830

Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn Ser Asp Val Met  
835 840 845

Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu Met Ala Asn His  
850 855 860

Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly Glu Ile Asp Pro  
865 870 875 880

Ser Met Met Arg His Leu Val Asn Ile Ser Leu Tyr Ala Phe Asn Lys  
885 890 895

Ser Tyr Asp Tyr Gln Ser Val Cys Asp Pro Gly Ala Ala Pro Lys Gln  
900 905 910

Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile Ala Asp Ile Leu  
915 920 925

Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser Ile Leu Gln Gln  
930 935 940

Leu Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu Ala Val Glu Met  
945 950 955 960

Glu Glu Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln Ser Cys Ile Thr  
965 970 975

Glu Gln Thr Gln Tyr Phe Phe Lys Asn Asp Thr Lys Ser Phe Ser Gly  
980 985 990

18327 US Sequence Listing as filed

Leu Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His Val Glu Lys Leu  
995 1000 1005

Met Asn Thr Asn Leu Val Phe Ile Met Val Glu Ser Lys Gly Thr  
1010 1015 1020

Cys Pro Cys Asp Thr Arg Leu Leu Met Gln Ala Glu Gln Thr Ser  
1025 1030 1035

Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr Arg  
1040 1045 1050

Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr  
1055 1060 1065

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser  
1070 1075 1080

Ile Phe Gly Leu Gln Phe Ile Leu Leu Trp Leu Val Ser Gly Ser  
1085 1090 1095

Arg His Tyr Leu Leu  
1100

<210> 26  
<211> 1091  
<212> PRT  
<213> Mus musculus

<400> 26

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser  
1 5 10 15

Gly Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Pro Val Thr  
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala  
35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
85 90 95

18327 US Sequence Listing as filed

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
 100 105 110  
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
 115 120 125  
 Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Pro Gly Ser Gln Arg  
 130 135 140  
 Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
 145 150 155 160  
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
 165 170 175  
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
 180 185 190  
 Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
 195 200 205  
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val  
 210 215 220  
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg  
 225 230 235 240  
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile  
 245 250 255  
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile  
 260 265 270  
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe  
 275 280 285  
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe  
 290 295 300  
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp  
 305 310 315 320  
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly  
 325 330 335  
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala  
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340

345

350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg  
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val  
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln  
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile  
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg  
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn  
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu  
450 455 460

Pro Val Phe Asn Val Thr Gly Gln Ser Glu Asn Lys Thr Asn Leu Lys  
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp  
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr  
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln  
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp  
530 535 540

Ala Glu Leu Glu Asn Glu Ile Lys Val Glu Ile Arg Asn Lys Met Ile  
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln  
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro  
580 585 590

18327 US Sequence Listing as filed

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser  
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg  
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn  
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Glu Tyr Cys Asn  
645 650 655

Asp Leu Lys Pro Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn  
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp  
675 680 685

Leu Ile Asn Arg Ile Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val  
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg  
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala  
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr  
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe  
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys  
770 775 780

Ala Val Glu Leu Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val  
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr  
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn  
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu  
835 840 845

18327 US Sequence Listing as filed

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly  
850 855 860

Glu Ile Asp Pro Ser Met Met Arg His Leu Val Asn Ile Ser Leu Tyr  
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Asp Pro Gly Ala  
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile  
900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser  
915 920 925

Ile Leu Gln Gln Leu Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu  
930 935 940

Ala Val Glu Met Glu Glu Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln  
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Lys Asn Asp Thr Lys  
965 970 975

Ser Phe Ser Gly Leu Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His  
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Val Phe Ile Met Val Glu Ser  
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Met Gln Ala Glu  
1010 1015 1020

Gln Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro  
1025 1030 1035

Arg Tyr Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu  
1040 1045 1050

Glu Asp Tyr Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser  
1055 1060 1065

Leu Trp Ser Ile Phe Gly Leu Gln Phe Ile Leu Leu Trp Leu Val  
1070 1075 1080

Ser Gly Ser Arg His Tyr Leu Leu  
1085 1090

18327 US Sequence Listing as filed

<210> 27  
 <211> 1086  
 <212> PRT  
 <213> Mus musculus

<400> 27

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser  
 1 5 10 15

Gly Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Pro Val Thr  
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala  
 35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
 85 90 95

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
 115 120 125

Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Pro Gly Ser Gln Arg  
 130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
 180 185 190

Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
 195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val  
 210 215 220

18327 US Sequence Listing as filed

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg  
 225 230 235 240  
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile  
 245 250 255  
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile  
 260 265 270  
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe  
 275 280 285  
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe  
 290 295 300  
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp  
 305 310 315 320  
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly  
 325 330 335  
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala  
 340 345 350  
 Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg  
 355 360 365  
 Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val  
 370 375 380  
 Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln  
 385 390 395 400  
 Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile  
 405 410 415  
 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg  
 420 425 430  
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn  
 435 440 445  
 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu  
 450 455 460  
 Pro Val Phe Asn Val Thr Gly Gln Ser Glu Asn Lys Thr Asn Leu Lys  
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465					470					475					480
Asn	Gln	Leu	Ile	Leu 485	Gly	Val	Met	Gly	Val 490	Asp	Val	Ser	Leu	Glu 495	Asp
Ile	Lys	Arg	Leu 500	Thr	Pro	Arg	Phe	Thr 505	Leu	Cys	Pro	Asn	Gly 510	Tyr	Tyr
Phe	Ala	Ile 515	Asp	Pro	Asn	Gly	Tyr 520	Val	Leu	Leu	His	Pro 525	Asn	Leu	Gln
Pro	Lys 530	Glu	Pro	Val	Thr	Leu 535	Asp	Phe	Leu	Asp	Ala 540	Glu	Leu	Glu	Asn
Glu 545	Ile	Lys	Val	Glu	Ile 550	Arg	Asn	Lys	Met	Ile 555	Asp	Gly	Glu	Ser	Gly 560
Glu	Lys	Thr	Phe	Arg 565	Thr	Leu	Val	Lys	Ser 570	Gln	Asp	Glu	Arg	Tyr 575	Ile
Asp	Lys	Gly	Asn 580	Arg	Thr	Tyr	Thr	Trp 585	Thr	Pro	Val	Asn	Gly 590	Thr	Asp
Tyr	Ser	Leu 595	Ala	Leu	Val	Leu	Pro 600	Thr	Tyr	Ser	Phe	Tyr 605	Tyr	Ile	Lys
Ala	Lys 610	Leu	Glu	Glu	Thr	Ile 615	Thr	Gln	Ala	Arg	Ser 620	Lys	Lys	Gly	Lys
Met 625	Lys	Asp	Ser	Glu	Thr 630	Leu	Lys	Pro	Asp	Asn 635	Phe	Glu	Glu	Ser	Gly 640
Tyr	Thr	Phe	Ile	Ala 645	Pro	Arg	Glu	Tyr	Cys 650	Asn	Asp	Leu	Lys	Pro 655	Ser
Asp	Asn	Asn	Thr 660	Glu	Phe	Leu	Leu	Asn 665	Phe	Asn	Glu	Phe	Ile 670	Asp	Arg
Lys	Thr	Pro 675	Asn	Asn	Pro	Ser	Cys 680	Asn	Thr	Asp	Leu	Ile 685	Asn	Arg	Ile
Leu	Leu 690	Asp	Ala	Gly	Phe	Thr 695	Asn	Glu	Leu	Val	Gln 700	Asn	Tyr	Trp	Ser
Lys 705	Gln	Lys	Asn	Ile	Lys 710	Gly	Val	Lys	Ala	Arg 715	Phe	Val	Val	Thr	Asp 720

18327 US Sequence Listing as filed

Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala Gly Glu Asn Trp Gln  
725 730 735

Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr Lys Arg Ser Leu Asp  
740 745 750

Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe Asn Lys Ser Gly Pro  
755 760 765

Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys Ala Val Glu Leu Tyr  
770 775 780

Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val Gly Ile Lys Ile Asp  
785 790 795 800

Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr Ser Ile Arg Asp Pro  
805 810 815

Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn Ser Asp Val Met Asp  
820 825 830

Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu Met Ala Asn His Asp  
835 840 845

Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly Glu Ile Asp Pro Ser  
850 855 860

Met Met Arg His Leu Val Asn Ile Ser Leu Tyr Ala Phe Asn Lys Ser  
865 870 875 880

Tyr Asp Tyr Gln Ser Val Cys Asp Pro Gly Ala Ala Pro Lys Gln Gly  
885 890 895

Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile Ala Asp Ile Leu Gln  
900 905 910

Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser Ile Leu Gln Gln Leu  
915 920 925

Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu Ala Val Glu Met Glu  
930 935 940

Glu Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln Ser Cys Ile Thr Glu  
945 950 955 960

Gln Thr Gln Tyr Phe Phe Lys Asn Asp Thr Lys Ser Phe Ser Gly Leu  
965 970 975

18327 US Sequence Listing as filed

Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His Val Glu Lys Leu Met  
980 985 990

Asn Thr Asn Leu Val Phe Ile Met Val Glu Ser Lys Gly Thr Cys Pro  
995 1000 1005

Cys Asp Thr Arg Leu Leu Met Gln Ala Glu Gln Thr Ser Asp Gly  
1010 1015 1020

Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr Arg Lys Gly  
1025 1030 1035

Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr Thr Asp  
1040 1045 1050

Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser Ile Phe  
1055 1060 1065

Gly Leu Gln Phe Ile Leu Leu Trp Leu Val Ser Gly Ser Arg His  
1070 1075 1080

Tyr Leu Leu  
1085

<210> 28  
<211> 1079  
<212> PRT  
<213> Mus musculus

<400> 28

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser  
1 5 10 15

Gly Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Pro Val Thr  
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala  
35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
85 90 95

18327 US Sequence Listing as filed

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
115 120 125

Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Pro Gly Ser Gln Arg  
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
180 185 190

Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val  
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg  
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile  
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile  
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe  
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe  
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp  
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly  
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala  
340 345 350

18327 US Sequence Listing as filed

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg  
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val  
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln  
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile  
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg  
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn  
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu  
450 455 460

Pro Val Phe Asn Val Thr Gly Gln Ser Glu Asn Lys Thr Asn Leu Lys  
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp  
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr  
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln  
515 520 525

Pro Lys Glu Pro Val Thr Leu Asp Phe Leu Asp Ala Glu Leu Glu Asn  
530 535 540

Glu Ile Lys Val Glu Ile Arg Asn Lys Met Ile Asp Gly Glu Ser Gly  
545 550 555 560

Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln Asp Glu Arg Tyr Ile  
565 570 575

Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro Val Asn Gly Thr Asp  
580 585 590

Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser Phe Tyr Tyr Ile Lys  
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18327 US Sequence Listing as filed

595

600

605

Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg Tyr Ser Glu Thr Leu  
610 615 620

Lys Pro Asp Asn Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg  
625 630 635 640

Glu Tyr Cys Asn Asp Leu Lys Pro Ser Asp Asn Asn Thr Glu Phe Leu  
645 650 655

Leu Asn Phe Asn Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser  
660 665 670

Cys Asn Thr Asp Leu Ile Asn Arg Ile Leu Leu Asp Ala Gly Phe Thr  
675 680 685

Asn Glu Leu Val Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly  
690 695 700

Val Lys Ala Arg Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr  
705 710 715 720

Pro Lys Glu Ala Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu  
725 730 735

Asp Ser Phe Tyr Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr  
740 745 750

Ala Pro Tyr Phe Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile  
755 760 765

Met Val Ser Lys Ala Val Glu Leu Tyr Ile Gln Gly Lys Leu Leu Lys  
770 775 780

Pro Ala Val Val Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn  
785 790 795 800

Phe Thr Lys Thr Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp  
805 810 815

Cys Lys Arg Asn Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly  
820 825 830

Gly Phe Leu Leu Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly  
835 840 845

18327 US Sequence Listing as filed

Arg Phe Phe Gly Glu Ile Asp Pro Ser Met Met Arg His Leu Val Asn  
850 855 860

Ile Ser Leu Tyr Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys  
865 870 875 880

Asp Pro Gly Ala Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr  
885 890 895

Val Pro Ser Ile Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala  
900 905 910

Ala Ala Trp Ser Ile Leu Gln Gln Leu Leu Leu Ser Leu Thr Phe Pro  
915 920 925

Arg Leu Leu Glu Ala Val Glu Met Glu Glu Asp Asp Phe Thr Ala Ser  
930 935 940

Leu Ser Lys Gln Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Lys  
945 950 955 960

Asn Asp Thr Lys Ser Phe Ser Gly Leu Leu Asp Cys Gly Asn Cys Ser  
965 970 975

Arg Ile Phe His Val Glu Lys Leu Met Asn Thr Asn Leu Val Phe Ile  
980 985 990

Met Val Glu Ser Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Met  
995 1000 1005

Gln Ala Glu Gln Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val  
1010 1015 1020

Lys Gln Pro Arg Tyr Arg Lys Gly Pro Asp Val Cys Phe Asp Asn  
1025 1030 1035

Asn Val Leu Glu Asp Tyr Thr Asp Cys Gly Gly Val Ser Gly Leu  
1040 1045 1050

Asn Pro Ser Leu Trp Ser Ile Phe Gly Leu Gln Phe Ile Leu Leu  
1055 1060 1065

Trp Leu Val Ser Gly Ser Arg His Tyr Leu Leu  
1070 1075

<210> 29  
<211> 1084  
<212> PRT

## 18327 US Sequence Listing as filed

&lt;213&gt; Mus musculus

&lt;400&gt; 29

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser  
 1 5 10 15

Gly Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Pro Val Thr  
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala  
 35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
 85 90 95

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
 115 120 125

Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Pro Gly Ser Gln Arg  
 130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
 180 185 190

Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
 195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val  
 210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg  
 225 230 235 240

18327 US Sequence Listing as filed

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile  
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile  
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe  
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe  
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp  
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly  
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala  
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg  
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val  
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln  
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile  
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg  
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn  
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu  
450 455 460

Pro Val Phe Asn Val Thr Gly Gln Ser Glu Asn Lys Thr Asn Leu Lys  
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp  
485 490 495

18327 US Sequence Listing as filed

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr  
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln  
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp  
530 535 540

Ala Glu Leu Glu Asn Glu Ile Lys Val Glu Ile Arg Asn Lys Met Ile  
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln  
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro  
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser  
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg  
610 615 620

Tyr Ser Glu Thr Leu Lys Pro Asp Asn Phe Glu Glu Ser Gly Tyr Thr  
625 630 635 640

Phe Ile Ala Pro Arg Glu Tyr Cys Asn Asp Leu Lys Pro Ser Asp Asn  
645 650 655

Asn Thr Glu Phe Leu Leu Asn Phe Asn Glu Phe Ile Asp Arg Lys Thr  
660 665 670

Pro Asn Asn Pro Ser Cys Asn Thr Asp Leu Ile Asn Arg Ile Leu Leu  
675 680 685

Asp Ala Gly Phe Thr Asn Glu Leu Val Gln Asn Tyr Trp Ser Lys Gln  
690 695 700

Lys Asn Ile Lys Gly Val Lys Ala Arg Phe Val Val Thr Asp Gly Gly  
705 710 715 720

Ile Thr Arg Val Tyr Pro Lys Glu Ala Gly Glu Asn Trp Gln Glu Asn  
725 730 735

Pro Glu Thr Tyr Glu Asp Ser Phe Tyr Lys Arg Ser Leu Asp Asn Asp

18327 US Sequence Listing as filed

740

745

750

Asn Tyr Val Phe Thr Ala Pro Tyr Phe Asn Lys Ser Gly Pro Gly Ala  
755 760 765

Tyr Glu Ser Gly Ile Met Val Ser Lys Ala Val Glu Leu Tyr Ile Gln  
770 775 780

Gly Lys Leu Leu Lys Pro Ala Val Val Gly Ile Lys Ile Asp Val Asn  
785 790 800

Ser Trp Ile Glu Asn Phe Thr Lys Thr Ser Ile Arg Asp Pro Cys Ala  
805 810 815

Gly Pro Val Cys Asp Cys Lys Arg Asn Ser Asp Val Met Asp Cys Val  
820 825 830

Ile Leu Asp Asp Gly Gly Phe Leu Leu Met Ala Asn His Asp Asp Tyr  
835 840 845

Thr Asn Gln Ile Gly Arg Phe Phe Gly Glu Ile Asp Pro Ser Met Met  
850 855 860

Arg His Leu Val Asn Ile Ser Leu Tyr Ala Phe Asn Lys Ser Tyr Asp  
865 870 875 880

Tyr Gln Ser Val Cys Asp Pro Gly Ala Ala Pro Lys Gln Gly Ala Gly  
885 890 895

His Arg Ser Ala Tyr Val Pro Ser Ile Ala Asp Ile Leu Gln Ile Gly  
900 905 910

Trp Trp Ala Thr Ala Ala Ala Trp Ser Ile Leu Gln Gln Leu Leu Leu  
915 920 925

Ser Leu Thr Phe Pro Arg Leu Leu Glu Ala Val Glu Met Glu Glu Asp  
930 935 940

Asp Phe Thr Ala Ser Leu Ser Lys Gln Ser Cys Ile Thr Glu Gln Thr  
945 950 955 960

Gln Tyr Phe Phe Lys Asn Asp Thr Lys Ser Phe Ser Gly Leu Leu Asp  
965 970 975

Cys Gly Asn Cys Ser Arg Ile Phe His Val Glu Lys Leu Met Asn Thr  
980 985 990

18327 US Sequence Listing as filed

Asn Leu Val Phe Ile Met Val Glu Ser Lys Gly Thr Cys Pro Cys Asp  
995 1000 1005

Thr Arg Leu Leu Met Gln Ala Glu Gln Thr Ser Asp Gly Pro Asp  
1010 1015 1020

Pro Cys Asp Met Val Lys Gln Pro Arg Tyr Arg Lys Gly Pro Asp  
1025 1030 1035

Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr Thr Asp Cys Gly  
1040 1045 1050

Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser Ile Phe Gly Leu  
1055 1060 1065

Gln Phe Ile Leu Leu Trp Leu Val Ser Gly Ser Arg His Tyr Leu  
1070 1075 1080

Leu

<210> 30  
<211> 1091  
<212> PRT  
<213> Rattus norvegicus

<400> 30

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser  
1 5 10 15

Trp Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Pro Val Thr  
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala  
35 40 45

Lys Thr Ala Ser Gly Val Thr Gln Leu Ala Asp Ile Tyr Glu Lys Tyr  
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu  
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala  
85 90 95

Leu Val Arg Leu Ala Met Glu Ala Glu Lys Val Gln Ala Ala His Gln  
100 105 110

18327 US Sequence Listing as filed

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys  
115 120 125

Asp Asp Leu Asp Pro Glu Arg Asn Glu Ser Glu Ser Gly Ser Gln Arg  
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser  
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser  
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val  
180 185 190

Phe Lys Arg Asn Arg Asp Glu Asp Pro Thr Leu Leu Trp Gln Val Phe  
195 200 205

Ala Ala Asp Arg Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val Asp  
210 215 220

Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg Arg  
225 230 235 240

Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile Leu  
245 250 255

Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile Arg  
260 265 270

Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe Val  
275 280 285

Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe Gln  
290 295 300

His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp Ala  
305 310 315 320

Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly Phe  
325 330 335

Thr Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala Asn  
340 345 350

Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg Ala  
355 360 365

18327 US Sequence Listing as filed

Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val Phe  
370 375 380

Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln Trp  
385 390 395 400

Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile Gly  
405 410 415

Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg Pro  
420 425 430

Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn Val  
435 440 445

Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu Pro  
450 455 460

Val Phe Asn Val Thr Gly Gln Ser Glu Asn Lys Thr Asn Leu Lys Asn  
465 470 475 480

Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp Ile  
485 490 495

Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr Phe  
500 505 510

Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln Pro  
515 520 525

Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp Ala  
530 535 540

Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile Asp  
545 550 555 560

Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln Asp  
565 570 575

Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro Val  
580 585 590

Asn Gly Thr Asp Tyr Arg Tyr Leu Ala Leu Val Leu Pro Thr Tyr Ser  
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg  
610 615 620

18327 US Sequence Listing as filed

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn  
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Glu Tyr Cys Asn  
645 650 655

Asp Leu Lys Pro Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn  
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp  
675 680 685

Leu Ile Asn Arg Ile Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val  
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg  
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala  
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr  
740 745 750

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe  
755 760 765

Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys  
770 775 780

Ala Val Glu Leu Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val  
785 790 795 800

Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr  
805 810 815

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn  
820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu  
835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly  
850 855 860

Glu Ile Asp Pro Arg Met Met Arg His Leu Val Asn Ile Ser Leu Tyr  
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18327 US Sequence Listing as filed

865

870

875

880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Asp Pro Gly Ala  
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile  
900 905 910

Thr Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser  
915 920 925

Ile Leu Gln Gln Leu Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu  
930 935 940

Ala Val Glu Met Glu Glu Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln  
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Lys Asn Asp Thr Lys  
965 970 975

Ser Phe Ser Gly Leu Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His  
980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Val Phe Ile Met Val Glu Ser  
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Met Gln Ala Glu  
1010 1015 1020

Gln Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro  
1025 1030 1035

Arg Tyr Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu  
1040 1045 1050

Glu Asp Tyr Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser  
1055 1060 1065

Leu Trp Ser Ile Phe Gly Leu Gln Phe Ile Leu Leu Trp Leu Val  
1070 1075 1080

Ser Gly Ser Arg His Tyr Leu Trp  
1085 1090

<210> 31  
<211> 1091  
<212> PRT  
<213> Sus scrofa

18327 US Sequence Listing as filed

<400> 31

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Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1      5      10      15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20      25      30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35      40      45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50      55      60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65      70      75      80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85      90      95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100     105     110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115     120     125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130     135     140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145     150     155     160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165     170     175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180     185     190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195     200     205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210     215     220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225     230     235     240

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18327 US Sequence Listing as filed

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile  
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile  
260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe  
275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe  
290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp  
305 310 315 320

Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly  
325 330 335

Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala  
340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg  
355 360 365

Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val  
370 375 380

Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln  
385 390 395 400

Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile  
405 410 415

Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg  
420 425 430

Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn  
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu  
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys  
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp  
485 490 495

18327 US Sequence Listing as filed

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr  
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln  
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp  
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile  
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln  
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro  
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser  
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg  
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn  
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn  
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn  
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp  
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val  
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg  
705 710 715 720

Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala  
725 730 735

Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr  
740 745 750

18327 US Sequence Listing as filed

Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe  
 755 760 765  
 Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys  
 770 775 780  
 Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val  
 785 790 795 800  
 Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr  
 805 810 815  
 Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn  
 820 825 830  
 Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu  
 835 840 845  
 Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly  
 850 855 860  
 Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr  
 865 870 875 880  
 Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala  
 885 890 895  
 Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile  
 900 905 910  
 Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser  
 915 920 925  
 Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu  
 930 935 940  
 Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln  
 945 950 955 960  
 Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys  
 965 970 975  
 Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His  
 980 985 990  
 Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser  
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18327 US Sequence Listing as filed

995

1000

1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu  
1010 1015 1020

Gln Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro  
1025 1030 1035

Arg Tyr Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu  
1040 1045 1050

Glu Asp Tyr Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser  
1055 1060 1065

Leu Trp Ser Ile Phe Gly Ile Gln Cys Val Leu Leu Trp Leu Leu  
1070 1075 1080

Ser Gly Ser Arg His Tyr Gln Leu  
1085 1090

<210> 32  
<211> 1156  
<212> PRT  
<213> Mus musculus

<400> 32

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Trp Pro Gly Pro Val  
1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Arg Gly Pro Arg Pro Cys Pro Asp  
20 25 30

Pro Arg Gly Pro Ala Ser Gly Pro Ala Arg Pro Leu Leu Leu Leu Leu  
35 40 45

Pro Pro Leu Leu Leu Leu Pro Leu Leu Thr Ala Pro Gly Ala Ser Ala  
50 55 60

Tyr Ser Phe Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu  
65 70 75 80

Glu Gln Glu Ile Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln  
85 90 95

Leu Arg Glu Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu  
100 105 110

Asn Glu Pro Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser  
Page 55

18327 US Sequence Listing as filed

115

120

125

Leu Leu Asp Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala  
130 135 140

Glu Asn Phe Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu  
145 150 155 160

Asp Ile Met Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro  
165 170 175

Glu Ser Glu Asp Met Glu Arg Gly Ser Lys Thr Ser Ala Leu Arg Leu  
180 185 190

Asp Phe Ile Glu Asp Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr  
195 200 205

Thr Ala Val Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile  
210 215 220

Leu Asn Glu Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Ile Glu  
225 230 235 240

Asn Arg Arg Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala  
245 250 255

Thr Gly Val Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys  
260 265 270

Lys Ile Asp Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly  
275 280 285

Ala Ser Ser Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser  
290 295 300

Val Ser Gly Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met  
305 310 315 320

Leu Asp Thr Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn  
325 330 335

Glu Lys Ala Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn  
340 345 350

Val Arg Asn Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala  
355 360 365

18327 US Sequence Listing as filed

Lys Gly Thr Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln  
370 375 380

Leu Gln Asn Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met  
385 390 395 400

Met Phe Thr Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys  
405 410 415

Tyr Asn Trp Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly  
420 425 430

Gln His Asn Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Thr Asn  
435 440 445

Lys Gly Tyr Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn  
450 455 460

Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly  
465 470 475 480

Lys Asp Ala Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu  
485 490 495

Gly Leu Gly Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr  
500 505 510

Gln Asp Gly Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met  
515 520 525

Gly Ile Asp Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr  
530 535 540

Thr Leu Gly Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr  
545 550 555 560

Val Leu Leu His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu  
565 570 575

Pro Val Thr Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys  
580 585 590

Glu Glu Ile Arg Arg Ser Met Ile Asp Gly Asp Lys Gly His Lys Gln  
595 600 605

Ile Arg Thr Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val  
610 615 620

18327 US Sequence Listing as filed

Ile Arg Asn Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu  
625 630 635 640

Gly Leu Val Leu Pro Pro Tyr Ser Thr Tyr Tyr Leu Gln Ala Asn Leu  
645 650 655

Arg Asp Gln Ile Leu Gln Val Lys Leu Pro Ile Ser Lys Leu Lys Asp  
660 665 670

Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu Ser Glu Gly His Val Phe  
675 680 685

Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu Asn Ala Ser Asp Asn Ser  
690 695 700

Thr Glu Phe Leu Lys Asp Phe Ile Glu Leu Met Glu Lys Val Thr Pro  
705 710 715 720

Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu His Asn Leu Ile Leu Asp  
725 730 735

Thr Gly Ile Thr Gln Gln Leu Val Glu Arg Val Trp Arg Asp Gln Asp  
740 745 750

Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe Ala Ala Thr Asp Gly Gly  
755 760 765

Ile Thr Arg Val Phe Pro Asn Lys Ala Ala Glu Asp Trp Thr Glu Asn  
770 775 780

Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg Arg Ser Leu Asp Asn His  
785 790 795 800

Gly Tyr Ile Phe Lys Pro Pro His Gln Asp Ser Leu Leu Arg Pro Leu  
805 810 815

Glu Leu Glu Asn Asp Thr Val Gly Val Leu Val Ser Thr Ala Val Glu  
820 825 830

Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro Ala Val Val Gly Val Lys  
835 840 845

Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe Lys Val Leu Ala Ser Asn  
850 855 860

Arg Thr His Gln Asp Gln Pro Gln Lys Cys Gly Pro Ser Ser His Cys  
865 870 875 880

18327 US Sequence Listing as filed

Glu Met Asp Cys Glu Val Asn Asn Glu Asp Leu Leu Cys Val Leu Ile  
885 890 895

Asp Asp Gly Gly Phe Leu Val Leu Ser Asn Gln Asn His Gln Trp Asp  
900 905 910

Gln Val Gly Arg Phe Phe Ser Glu Val Asp Ala Asn Leu Met Leu Ala  
915 920 925

Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys Glu Ser Tyr Asp Tyr Gln  
930 935 940

Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn Leu Gly Ala Ala Pro Arg  
945 950 955 960

Gly Val Phe Val Pro Thr Ile Ala Asp Phe Leu Asn Leu Ala Trp Trp  
965 970 975

Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln Gln Leu Leu Tyr Gly Leu  
980 985 990

Ile Tyr His Ser Trp Phe Gln Ala Asp Pro Ala Glu Ala Glu Gly Ser  
995 1000 1005

Pro Glu Thr Arg Glu Ser Ser Cys Val Met Lys Gln Thr Gln Tyr  
1010 1015 1020

Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala Ile Ile Asp Cys  
1025 1030 1035

Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu Thr Asn Thr  
1040 1045 1050

Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser Gln Cys  
1055 1060 1065

Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala Asp  
1070 1075 1080

Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg  
1085 1090 1095

Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser  
1100 1105 1110

Asp Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly Val Leu  
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18327 US Sequence Listing as filed

1115

1120

1125

Val Ser Leu Gln Leu Leu Leu Leu Leu Gly Leu Pro Pro Arg Pro  
1130 1135 1140

Gln Pro Gln Val His Ser Phe Ala Ala Ser Arg His Leu  
1145 1150 1155

<210> 33

<211> 1157

<212> PRT

<213> Rattus norvegicus

<400> 33

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Trp Pro Gly Pro Val  
1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Arg Gly Pro Arg Pro Cys Pro Asp  
20 25 30

Pro Arg Gly Pro Ala Ser Gly Pro Ala Arg Pro Leu Leu Leu Leu  
35 40 45

Pro Pro Leu Leu Leu Leu Pro Leu Leu Thr Ala Pro Gly Ala Ser Ala  
50 55 60

Tyr Ser Phe Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu  
65 70 75 80

Glu Gln Glu Ile Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln  
85 90 95

Leu Arg Glu Ile Tyr Lys Asp Asn Arg Asn Leu Phe Asp Val Gln Glu  
100 105 110

Asn Glu Pro Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser  
115 120 125

Leu Leu Asp Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala  
130 135 140

Glu Asn Phe Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu  
145 150 155 160

Asp Ile Met Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro  
165 170 175

Glu Ser Glu Asp Met Glu Arg Gly Ser Lys Thr Ser Ala Leu Arg Leu  
Page 60

18327 US Sequence Listing as filed

180

185

190

Asp Phe Ile Glu Glu Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr  
195 200 205

Thr Ala Val Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile  
210 215 220

Leu Asn Glu Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Ile Glu  
225 230 235 240

Asn Arg Arg Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala  
245 250 255

Thr Gly Val Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys  
260 265 270

Lys Ile Asp Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly  
275 280 285

Ala Ser Ser Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser  
290 295 300

Val Ser Gly Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met  
305 310 315 320

Leu Asp Thr Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn  
325 330 335

Glu Lys Ala Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn  
340 345 350

Val Arg Asn Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala  
355 360 365

Lys Gly Thr Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln  
370 375 380

Leu Gln Asn Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met  
385 390 395 400

Met Phe Thr Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys  
405 410 415

Tyr Asn Trp Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly  
420 425 430

18327 US Sequence Listing as filed

Gln His Asn Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Thr Asn  
435 440 445

Lys Gly Tyr Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn  
450 455 460

Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly  
465 470 475 480

Lys Asp Ala Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu  
485 490 495

Gly Leu Gly Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr  
500 505 510

Gln Asp Gly Pro Gly Asp Lys Lys Asn Gln Leu Ile Leu Gly Val Met  
515 520 525

Gly Ile Asp Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr  
530 535 540

Thr Leu Gly Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr  
545 550 555 560

Val Leu Leu His Pro Asn Leu Lys Pro Gln Ile Thr Asn Phe Arg Glu  
565 570 575

Pro Val Thr Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys  
580 585 590

Glu Glu Ile Arg Arg Ser Met Ile Asp Gly Asp Lys Gly His Lys Gln  
595 600 605

Ile Arg Thr Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val  
610 615 620

Ile Arg Asn Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu  
625 630 635 640

Gly Leu Val Leu Pro Pro Tyr Ser Thr Tyr Tyr Leu Gln Ala Asn Leu  
645 650 655

Ser Asp Gln Ile Leu Gln Val Lys Leu Pro Ile Ser Lys Leu Lys Asp  
660 665 670

Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu Ser Glu Gly His Val Phe  
675 680 685

18327 US Sequence Listing as filed

Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu Asn Ala Ser Asp Asn Asn  
690 695 700

Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu Met Glu Lys Val Thr Pro  
705 710 715 720

Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu His Asn Leu Ile Leu Asp  
725 730 735

Thr Gly Ile Thr Gln Gln Leu Val Glu Arg Val Trp Arg Asp Gln Asp  
740 745 750

Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe Ala Ala Thr Asp Gly Gly  
755 760 765

Ile Thr Arg Val Phe Pro Asn Lys Ala Ala Glu Asp Trp Thr Glu Asn  
770 775 780

Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg Arg Ser Leu Asp Asn Arg  
785 790 795 800

Gly Tyr Ile Phe Lys Pro Pro His Gln Asp Ser Leu Leu Arg Pro Leu  
805 810 815

Glu Leu Glu Asn Asp Thr Val Gly Val Leu Val Ser Thr Ala Val Glu  
820 825 830

Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro Ala Val Val Gly Val Lys  
835 840 845

Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe Lys Val Leu Ala Ser Asn  
850 855 860

Arg Thr His Gln Asp Gln Pro Gln Lys Gln Cys Gly Pro Ser Ser His  
865 870 875 880

Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp Leu Leu Cys Val Leu  
885 890 895

Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn Gln Asn His Gln Trp  
900 905 910

Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp Ala Asn Leu Met Leu  
915 920 925

Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys Glu Ser Tyr Asp Tyr  
930 935 940

18327 US Sequence Listing as filed

Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn Leu Gly Ala Ala Pro  
945 950 955 960

Arg Gly Val Phe Val Pro Thr Ile Ala Asp Phe Leu Asn Leu Ala Trp  
965 970 975

Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln Gln Leu Leu Tyr Gly  
980 985 990

Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro Ala Glu Ala Glu Gly  
995 1000 1005

Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met Lys Gln Thr Gln  
1010 1015 1020

Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala Ile Ile Asp  
1025 1030 1035

Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu Thr Asn  
1040 1045 1050

Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser Gln  
1055 1060 1065

Cys Glu Val Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala  
1070 1075 1080

Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg  
1085 1090 1095

Thr Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr  
1100 1105 1110

Ser Asp Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly Val  
1115 1120 1125

Leu Val Ser Leu Gln Leu Leu Leu Leu Gly Leu Pro Pro Arg  
1130 1135 1140

Pro Gln Pro Gln Ile His Ser Phe Thr Pro Ser Arg Arg Leu  
1145 1150 1155

<210> 34  
<211> 1157  
<212> PRT  
<213> Rattus norvegicus

## 18327 US Sequence Listing as filed

&lt;400&gt; 34

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Trp Pro Gly Pro Val  
 1 5 10 15  
 Arg Thr Ala Arg Pro Trp Pro Gly Arg Gly Pro Arg Pro Cys Pro Asp  
 20 25 30  
 Pro Arg Gly Pro Ala Ser Gly Pro Ala Arg Pro Leu Leu Leu Leu  
 35 40 45  
 Pro Pro Leu Leu Leu Leu Pro Leu Leu Thr Ala Pro Gly Ala Ser Ala  
 50 55 60  
 Tyr Ser Phe Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu  
 65 70 75 80  
 Glu Gln Glu Ile Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln  
 85 90 95  
 Leu Arg Glu Ile Tyr Lys Asp Asn Arg Asn Leu Phe Asp Val Gln Glu  
 100 105 110  
 Asn Glu Pro Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser  
 115 120 125  
 Leu Leu Asp Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala  
 130 135 140  
 Glu Asn Phe Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu  
 145 150 155 160  
 Asp Ile Met Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro  
 165 170 175  
 Glu Ser Glu Asp Met Glu Arg Gly Ser Lys Thr Ser Ala Leu Arg Leu  
 180 185 190  
 Asp Phe Ile Glu Glu Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr  
 195 200 205  
 Thr Ala Val Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile  
 210 215 220  
 Leu Asn Glu Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Ile Glu  
 225 230 235 240  
 Asn Arg Arg Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala  
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18327 US Sequence Listing as filed

245

250

255

Thr Gly Val Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys  
260 265 270

Lys Ile Asp Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly  
275 280 285

Ala Ser Ser Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser  
290 295 300

Val Ser Gly Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met  
305 310 315 320

Leu Asp Thr Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn  
325 330 335

Glu Lys Ala Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn  
340 345 350

Val Arg Asn Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala  
355 360 365

Lys Gly Thr Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln  
370 375 380

Leu Gln Asn Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met  
385 390 395 400

Met Phe Thr Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys  
405 410 415

Tyr Asn Trp Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly  
420 425 430

Gln His Asn Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Thr Asn  
435 440 445

Lys Gly Tyr Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn  
450 455 460

Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly  
465 470 475 480

Lys Asp Ala Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu  
485 490 495

18327 US Sequence Listing as filed

Gly Leu Gly Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr  
500 505 510

Gln Asp Gly Pro Gly Asp Lys Lys Asn Gln Leu Ile Leu Gly Val Met  
515 520 525

Gly Ile Asp Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr  
530 535 540

Thr Leu Gly Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr  
545 550 555 560

Val Leu Leu His Pro Asn Leu Lys Pro Gln Ile Thr Asn Phe Arg Glu  
565 570 575

Pro Val Thr Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys  
580 585 590

Glu Glu Ile Arg Arg Ser Met Ile Asp Gly Asp Lys Gly His Lys Gln  
595 600 605

Ile Arg Thr Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val  
610 615 620

Ile Arg Asn Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu  
625 630 635 640

Gly Leu Val Leu Pro Pro Tyr Ser Thr Tyr Tyr Leu Gln Ala Asn Leu  
645 650 655

Ser Asp Gln Ile Leu Gln Val Lys Leu Pro Ile Ser Lys Leu Lys Asp  
660 665 670

Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu Ser Glu Gly His Val Phe  
675 680 685

Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu Asn Ala Ser Asp Asn Asn  
690 695 700

Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu Met Glu Lys Val Thr Pro  
705 710 715 720

Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu His Asn Leu Ile Leu Asp  
725 730 735

Thr Gly Ile Thr Gln Gln Leu Val Glu Arg Val Trp Arg Asp Gln Asp  
740 745 750

18327 US Sequence Listing as filed

Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe Ala Ala Thr Asp Gly Gly  
 755 760 765  
 Ile Thr Arg Val Phe Pro Asn Lys Ala Ala Glu Asp Trp Thr Glu Asn  
 770 775 780  
 Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg Arg Ser Leu Asp Asn Arg  
 785 790 795 800  
 Gly Tyr Ile Phe Lys Pro Pro His Gln Asp Ser Leu Leu Arg Pro Leu  
 805 810 815  
 Glu Leu Glu Asn Asp Thr Val Gly Val Leu Val Ser Thr Ala Val Glu  
 820 825 830  
 Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro Ala Val Val Gly Val Lys  
 835 840 845  
 Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe Lys Val Leu Ala Ser Asn  
 850 855 860  
 Arg Thr His Gln Asp Gln Pro Gln Lys Gln Cys Gly Pro Ser Ser His  
 865 870 875 880  
 Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp Leu Leu Cys Val Leu  
 885 890 895  
 Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn Gln Asn His Gln Trp  
 900 905 910  
 Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp Ala Asn Leu Met Leu  
 915 920 925  
 Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys Glu Ser Tyr Asp Tyr  
 930 935 940  
 Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn Leu Gly Ala Ala Pro  
 945 950 955 960  
 Arg Gly Val Phe Val Pro Thr Ile Ala Asp Phe Leu Asn Leu Ala Trp  
 965 970 975  
 Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln Gln Leu Leu Tyr Gly  
 980 985 990  
 Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro Ala Glu Ala Glu Gly  
 995 1000 1005

18327 US Sequence Listing as filed

Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met Lys Gln Thr Gln  
1010 1015 1020

Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala Ile Ile Asp  
1025 1030 1035

Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu Thr Asn  
1040 1045 1050

Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser Gln  
1055 1060 1065

Cys Glu Val Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala  
1070 1075 1080

Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg  
1085 1090 1095

Thr Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr  
1100 1105 1110

Ser Asp Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly Val  
1115 1120 1125

Leu Val Ser Leu Gln Leu Leu Leu Leu Gly Leu Pro Pro Arg  
1130 1135 1140

Pro Gln Pro Gln Ile His Ser Phe Thr Pro Ser Arg Arg Leu  
1145 1150 1155

<210> 35

<211> 1098

<212> PRT

<213> Mus musculus

<400> 35

Leu Leu Pro Leu Leu Thr Ala Pro Gly Ala Ser Ala Tyr Ser Phe Pro  
1 5 10 15

Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu Ile  
20 25 30

Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu Ile  
35 40 45

Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro Gln  
50 55 60

18327 US Sequence Listing as filed

Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp Arg  
65 70 75 80

Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe Gln  
85 90 95

Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Met Tyr  
100 105 110

Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu Asp  
115 120 125

Met Glu Arg Gly Ser Lys Thr Ser Ala Leu Arg Leu Asp Phe Ile Glu  
130 135 140

Asp Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr Thr Ala Val Gln  
145 150 155 160

Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile Leu Asn Glu Leu  
165 170 175

Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Ile Glu Asn Arg Arg Gln  
180 185 190

Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala Thr Gly Val Thr  
195 200 205

Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys Lys Ile Asp Leu  
210 215 220

Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly Ala Ser Ser Pro  
225 230 235 240

Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser Val Ser Gly Leu  
245 250 255

Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr Leu  
260 265 270

Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn Glu Lys Ala Gln  
275 280 285

Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn Lys  
290 295 300

Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr Thr  
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## 18327 US Sequence Listing as filed

305 310 315 320

Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn Ser  
325 330 335

Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr Asp  
340 345 350

Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp Pro  
355 360 365

Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn Tyr  
370 375 380

Asp Val Thr Pro Leu Gln Trp Met Ala Cys Thr Asn Lys Gly Tyr Tyr  
385 390 395 400

Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr  
405 410 415

Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Asp Ala Lys  
420 425 430

Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly Leu  
435 440 445

Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly Pro  
450 455 460

Gly 465 Glu Lys Lys Asn 470 Gln Leu Ile Leu Gly 475 Val Met Gly Ile Asp Val 480

Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly Ala  
485 490 495

Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu His  
500 505 510

Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr Leu  
515 520 525

Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys Glu Glu Ile Arg  
530 535 540

Arg Ser Met Ile Asp Gly Asp Lys Gly His Lys Gln Ile Arg Thr Leu  
545 550 555 560

18327 US Sequence Listing as filed

Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Ile Arg Asn Tyr  
565 570 575

Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu Gly Leu Val Leu  
580 585 590

Pro Pro Tyr Ser Thr Tyr Tyr Leu Gln Ala Asn Leu Ser Asp Gln Ile  
595 600 605

Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu Ser  
610 615 620

Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu Asn  
625 630 635 640

Ala Ser Asp Asn Asn Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu Met  
645 650 655

Glu Lys Val Thr Pro Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu His  
660 665 670

Asn Leu Ile Leu Asp Thr Gly Ile Thr Gln Gln Leu Val Glu Arg Val  
675 680 685

Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe Ala  
690 695 700

Ala Thr Asp Gly Gly Ile Thr Arg Val Phe Pro Asn Lys Ala Ala Glu  
705 710 715 720

Asp Trp Thr Glu Asn Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg Arg  
725 730 735

Ser Leu Asp Asn His Gly Tyr Ile Phe Lys Pro Pro His Gln Asp Ser  
740 745 750

Leu Leu Arg Pro Leu Glu Leu Glu Asn Asp Thr Val Gly Val Leu Val  
755 760 765

Ser Thr Ala Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro Ala  
770 775 780

Val Val Gly Val Lys Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe Lys  
785 790 795 800

Val Leu Ala Ser Asn Arg Thr His Gln Asp Gln Pro Gln Lys Gln Cys  
805 810 815

18327 US Sequence Listing as filed

Gly Pro Ser Ser His Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp  
820 825 830

Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn  
835 840 845

Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp  
850 855 860

Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys  
865 870 875 880

Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn  
885 890 895

Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Ile Ala Asp Phe  
900 905 910

Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln  
915 920 925

Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro  
930 935 940

Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met  
945 950 955 960

Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala  
965 970 975

Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu  
980 985 990

Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser  
995 1000 1005

Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro  
1010 1015 1020

Ala Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr  
1025 1030 1035

Arg Arg Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp  
1040 1045 1050

Thr Ser Asp Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly  
1055 1060 1065

18327 US Sequence Listing as filed

Val Leu Val Ser Leu Gln Leu Leu Leu Leu Gly Leu Pro Pro  
1070 1075 1080

Arg Pro Gln Pro Gln Val His Ser Phe Ala Ala Ser Arg His Leu  
1085 1090 1095

<210> 36  
<211> 1148  
<212> PRT  
<213> Mus musculus

<400> 36

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Trp Pro Gly Pro Val  
1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Arg Gly Pro Arg Pro Cys Pro Asp  
20 25 30

Pro Arg Gly Pro Ala Ser Gly Pro Ala Arg Pro Leu Leu Leu Leu  
35 40 45

Pro Pro Leu Leu Leu Leu Pro Leu Leu Thr Ala Pro Gly Ala Ser Ala  
50 55 60

Tyr Ser Phe Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu  
65 70 75 80

Glu Gln Glu Ile Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln  
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Leu Arg Glu Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu  
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Asn Glu Pro Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser  
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Glu Asn Phe Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu  
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Asp Ile Met Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro  
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Glu Ser Glu Asp Met Glu Arg Gly Ser Lys Thr Ser Ala Leu Arg Leu  
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Asp Phe Ile Glu Asp Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr  
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Thr Ala Val Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile  
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Leu Asn Glu Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Ile Glu  
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Asn Arg Arg Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala  
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Thr Gly Val Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys  
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Lys Ile Asp Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly  
275 280 285

Ala Ser Ser Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser  
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Val Ser Gly Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met  
305 310 315 320

Leu Asp Thr Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn  
325 330 335

Glu Lys Ala Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn  
340 345 350

Val Arg Asn Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala  
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Lys Gly Thr Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln  
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Leu Gln Asn Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met  
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Met Phe Thr Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys  
405 410 415

Tyr Asn Trp Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly  
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Gln His Asn Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Thr Asn  
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435

440

445

Lys Gly Tyr Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn  
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Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly  
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Lys Asp Ala Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu  
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Gly Leu Gly Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr  
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Gln Asp Gly Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met  
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Gly Ile Asp Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr  
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Thr Leu Gly Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr  
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Val Leu Leu His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu  
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Pro Val Thr Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys  
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Glu Glu Ile Arg Arg Ser Met Ile Asp Gly Asp Lys Gly His Lys Gln  
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Ile Arg Thr Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val  
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Ile Arg Asn Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu  
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Ser Asp Gln Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser  
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Ser Phe Glu Ser Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys  
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 Val Glu Arg Val Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu  
 740 745 750  
 Ala Val Phe Ala Ala Thr Asp Gly Gly Ile Thr Arg Val Phe Pro Asn  
 755 760 765  
 Lys Ala Ala Glu Asp Trp Thr Glu Asn Pro Glu Pro Phe Asn Ala Ser  
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 Phe Tyr Arg Arg Ser Leu Asp Asn His Gly Tyr Ile Phe Lys Pro Pro  
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 His Gln Asp Ser Leu Leu Arg Pro Leu Glu Leu Glu Asn Asp Thr Val  
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 Val Leu Ser Asn Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe  
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Pro Pro Gly Asn Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr  
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Ser Leu Phe Gln Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe  
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Gln Ala Asp Pro Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser  
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Ser Cys Val Met Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn  
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Ala Ser Tyr Asn Ala Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu  
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Phe His Ala Gln Arg Leu Thr Asn Thr Asn Leu Leu Phe Val Val  
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Ala Glu Lys Pro Leu Cys Ser Gln Cys Glu Ala Gly Arg Leu Leu  
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Gln Lys Glu Thr His Ser Asp Gly Pro Glu Gln Cys Glu Leu Val  
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Gln Arg Pro Arg Tyr Arg Arg Gly Pro His Ile Cys Phe Asp Tyr  
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Asn Ala Thr Glu Asp Thr Ser Asp Cys Gly Arg Gly Ala Ser Phe  
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Ala Ser Arg His Leu  
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## 18327 US Sequence Listing as filed

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## 18327 US Sequence Listing as filed

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<212> DNA
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## 18327 US Sequence Listing as filed

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## 18327 US Sequence Listing as filed

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18327 US Sequence Listing as filed

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18327 US Sequence Listing as filed

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